

## PATENT ABSTRACTS OF JAPAN

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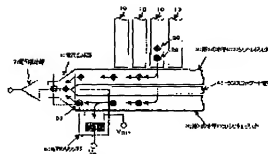
(72)Inventor : AKIYAMA IKUO

## (54) SOLID-STATE IMAGE PICKUP ELEMENT

## (57)Abstract:

PROBLEM TO BE SOLVED: To extend the dynamic range of the solid-state image pickup element.

SOLUTION: In the solid-state image pickup element, standard signal charges 23 stored by usual exposure and high luminance signal charges 28 stored by exposure for a short time are transferred by a vertical charge coupled device CCD shift register 10, the standard signal charges 23 are distributed to a 2nd horizontal CCD shift register 3 by a transfer electrode 4, transferred to a charge clip section 5 and converted into signal charges 37 obtained by aborting charges corresponding to uneven saturation from the standard signal charges 23 and the charges 37 are transferred to a charge synthesis section 6. The high luminance signal charges 28 are distributed to a 1st horizontal CCD shift register 2 and transferred to the charge synthesis section 6. The charge synthesis section 6 sums the signal charges 37 and the high luminance signal charges 28 and a charge detection section 7 converts the sum into a signal voltage.



## LEGAL STATUS

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[Date of final disposal for application]

[Patent number]

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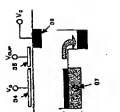
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【図5】



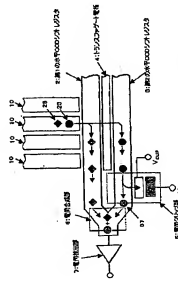
- 23, 27: 電極層  
24: 絶縁層  
25: シリコンオキシド層  
26: ドrain

【図6】



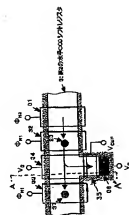
- 20, 21, 25, 27: 電極層  
22, 26: 絶縁層

【図7】



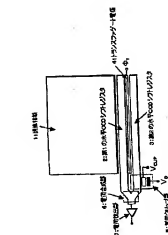
- 10: 絶縁CDラミネータ  
23, 24, 27: 電極層

【図8】



- 21, 22, 23: 絶縁層  
24: 絶縁層  
25: シリコンオキシド層  
26: ドrain

【図1】

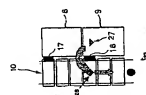


- 8, 9: フォトリソグレート  
10: 絶縁CDラミネータ  
11, 12, 13, 14, 15, 16, 17: 絶縁層  
18: シリコンオキシド層  
20: 電極層

【図5】

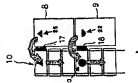


【図4】



- 10, 21, 24, 25: シリコンオキシド層

【図3】



- 8, 9: フォトリソグレート  
10: 絶縁CDラミネータ  
11, 12, 13, 14, 15, 16: 絶縁層  
17, 18: フォトリソグレート  
19, 20, 21: 電極層  
22, 23: 絶縁層  
24, 25: シリコンオキシド層  
26: ドrain



